平成29年度
岐阜大学大学院
工学研究科
博士後期（博士）課程
学生募集要項

2017
Graduate School of Engineering
Doctoral Program
Student Recruitment Guide

- 一般入試
  General Admissions
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  Special Admissions for Foreign Students

平成28年４月
April 2016

国立大学法人
岐阜大学
GIFU UNIVERSITY

工学研究科博士後期課程　アドミッションポリシー
Graduate School Doctoral Program Admission Policy

【教育目的　Educational Aims】

幅広い応用力や開発能力を身につけた独創性のある技術者・研究者を育て，かつ深化した専門教育をします。また，実社会経験者の企業等に在職したまま在籍することを認め，研究テーマによっては企業等での研究成果を生かして，実際に大学で行う研究時間を少なくしても研究成果を評価し得るシステムも取り入れています。さらに，国際化に資するため外国人留学生の受け入れも積極的に行っています。

The doctor's course aims at teaching cutting edge technology and cultivating creative engineers and researchers with a broad range of application and innovative abilities. We also aim to educate engineers employed in companies by providing them the opportunity to utilize their work research as their thesis towards a Doctor's degree. The university greatly welcomes international students as part of our internationalization goals.

【求める学生像　The Ideal Applicant】

博士前期課程の教育研究の成果をもとに，

①より深化した専門知識を極めようとする意欲，
②様々な工学現象の真理を究めるに必要な深い洞察力，
③社会の必要とする技術が何かを敏感に感じ取り，自ら研究開発しようとする意欲，
④国際的な視野で自らの研究を位置付け，果敢に広めようとする強い意志，
⑤研究成果を，高い倫理観のもとに人類の快適な生活空間構築に役立てたいとする奉仕の精神

などを持ち合わせた学習意欲旺盛な学生の入学を期待しています。

Applicants must demonstrate an eagerness for higher learning combined with:

1. the desire to attain a deeper level of specialized knowledge,
2. deep insights required to derive at various engineering phenomena,
3. a keen understanding of the technologies necessary for society and a desire to pursue independent research,
4. a strong international outlook on one's research and determination to pursue it,
5. a community spirit and the desire to improve human living environment through research and sound ethics.

...We look forward to receiving applicants who possess the above-mentioned qualities.

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Ⅰ　募集人員　Recruitment

専攻 Division	入学定員 Enrollment Quota	一般 General	社会人 Continuing Ed.	外国人留学生 Foreign Students
生産開発システム工学専攻 Mechanical and Civil Engineering Division	7	7	若干名 A few	若干名 A few
物質工学専攻 Material Engineering Division	3	3	若干名 A few	若干名 A few
電子情報システム工学専攻 Electronics and Information Systems Engineering Division	4	4	若干名 A few	若干名 A few
環境エネルギーシステム専攻 Environmental and Renewable Energy Systems Division	13	13	若干名 A few	若干名 A few

Ⅱ　出願資格　Application Requirements

◆出願資格　Application Requirements

①修士の学位又は専門職学位を有する者及び平成29年３月までに取得見込みの者

Individuals possessing a master's degree or professional degree, or will have obtained one by March, 2017 may apply.

②外国の大学において修士の学位又は専門職学位に相当する学位を授与された者及び平成29年３月までに取得見込みの者

Individuals who have obtained the equivalent of a master's degree or professional degree at a foreign university, or will have obtained one by March 2017, may apply.

③外国の学校が行う通信教育における授業科目を我が国において履修し，修士の学位又は専門職学位に相当する学位を授与された者及び平成29年３月までに取得見込みの者

Individuals who have satisfied Japanese education requirements through correspondence courses at a foreign institution and obtained the equivalent of a master's degree or professional degree, or will have obtained one by March, 2017 may apply.

④我が国において，外国の大学院の課程を有するものとして当該外国の学校教育制度において位置付けられた教育施設であって，文部科学大臣が別に指定するものの当該課程を修了し，修士の学位又は専門職学位に相当する学位を授与された者及び平成29年３月までに取得見込みの者

Individuals who have completed a foreign graduate school program in Japan through an educational institution which belongs to a foreign educational system specifically approved by the Minister of Education, Culture, Sports, Science and Technology; and who have thereby obtained the equivalent of a master's degree or professional degree, or will have obtained one by March, 2017 may apply.

⑤国際連合大学の課程を修了し，修士の学位に相当する学位を授与された者及び平成29年３月までに取得見込みの者

Individuals who have completed the postgraduate program at the United Nations University and those scheduled to receive its master's degrees by March, 2017.

⑥文部科学大臣の指定した者（平成元年文部省告示第118号）　※

Individuals approved by the Minister of Education, Culture, Sports, Science and Technology may apply (Ministerial Announcement No. 118, Ministry of Education, Culture, Sports, Science and Technology, 1989).*

⑦本研究科において，個別の入学資格審査により，修士の学位又は専門職学位を有する者と同等以上の学力があると認めた者で，入学時に24歳に達している者　※

Individuals who are deemed, through the Gifu University graduate program's individual admission qualification evaluation process, to possess academic skills equal to or superior to those of an individual who has obtained a master's degree or professional degree, and will be at least 24 years old by the time of admission, may apply.*

※出願資格⑥又は⑦に該当する志願者は，出願に先立ち，入学資格の事前審査を行います。詳細については，後述のⅢ　入学資格審査に関しての記載事項をご覧ください。

*Applicants who hope to meet the qualifications listed under ⑥ or ⑦ must undergo a preliminary entrance qualification evaluation prior to applying. For more details, refer to Section III, "Entrance Qualification Evaluation", in this guide.

◆社会人の出願要件　**Application Conditions for Continuing Education Students**

研究機関，教育機関，官公庁，企業等に勤務する研究者，技術者等で入学時に２年以上の勤務経験を有し，入学後も引続きその身分を保有する者で，受験について所属長の承諾を得ることができる者

The candidate must have at least two years of experience working as a researcher or technician for a research organization, educational institution, government agency, company, or other organization; will maintain his or her employment at the organization after entering the program; and has been recommended by the his or her supervisor.

◆外国人留学生の出願要件　**Application Conditions for Foreign Students**

日本の大学において教育を受ける目的をもって入国している又は入国予定である日本国籍を有しない者

Foreign nationals (i.e. individuals who do not hold Japanese citizenship) currently residing in Japan (or are planning to come to Japan) for the purpose of receiving an education at a Japanese university may apply.

Ⅲ　入学資格審査に関して　Entrance Qualification Evaluation

◆出願資格⑥に関して　**Applying Under Admission Qualification ⑥**

(1) 出願資格⑥に定める文部科学大臣の指定した者とは，次の要件を満たす者をいいます。

Individuals approved by the Minister of Education, Culture, Sports, Science and Technology, as described in qualification ⑥, are those who satisfy one of the following conditions.

❶大学を卒業し，大学，研究所等において，２年以上研究に従事した者で，大学院において当該研究の成果等により，修士の学位を有する者と同等以上の学力があると認めたもの

The individual has graduated from a university, spent a minimum of two years engaged in research at a university or research laboratory, and has through that effort acquired academic skills deemed equal or superior to someone with a master's degree.

❷外国において学校教育における16年の課程を修了した後，又は外国の学校が行う通信教育における授業科目を我が国において履修することにより当該外国の学校教育における16年の課程を修了した後，大学，研究所等において，２年以上研究に従事した者で，大学院において，当該研究の成果等により，修士の学位を有する者と同等以上の学力があると認めたもの

The individual has either completed 16 years of education abroad or has completed 16 years of education through correspondence from a foreign institution while in Japan, and then has graduated from a university, spent a minimum of two years engaged in research at a university or research laboratory, and has through that effort acquired academic skills deemed equal or superior to those of someone with a master's degree.

(2) 出願資格⑥における入学資格審査申請手続について　Application Procedure for Admission Under Qualification ⑥

1）申請期間　Application Period

平成28年６月22日（水）～６月23日（木）　必着

Wed., June 22 – Thur., June 23, 2016 (Applications must be received by this period.)

2）提出方法及び提出先　How and Where to Apply

郵送又は持参（９～17時）により，岐阜大学工学部入試係へ提出してください。

〒501-1193　岐阜市柳戸１番１　岐阜大学工学部入試係

Apply by mail or in person (between 9:00 am and 5:00 pm) to the Admissions Section of the Gifu University Engineering Dept. Admissions Section, Dept. of Engineering, Gifu University, 1-1 Yanagido, Gifu City 501-1193

3）提出書類　Required Documents

入学資格審査申請書　：所定の用紙で作成してください

Admission Qualification Evaluation Submission Form　Use the form provided by the University

履歴書（入学資格審査申請用）　：所定の用紙で作成してください

Résumé (for the Admission Qualification Evaluation Submission Form)　Use the form provided by the University

検定料以外の出願書類一式

Submission Form Package excluding test fee

4）審査方法等　The Evaluation Process

書類審査。

必要に応じて，面接（口述試験含む）を実施することがありますが，その際は個別に連絡します。

Your documents will be evaluated. If necessary, an interview (which includes an oral examination) will be conducted. You will be contacted in the event an interview is necessary.

5）審査結果通知方法　Notification of Evaluation Results

平成28年７月15日（金）頃に結果通知書を本人宛に郵送します。

Evaluation results will be sent out by mail to applicants on or around Fri. July 10, 2015.

6）入学資格「認定」後の手続　The Post-Qualification Admission Procedure

認定の通知を受けてから，検定料30,000円を振込み，振込証明書を提出してください。

After receiving notice of approval, remit ¥30,000 examination fee and submit Proof of Payment.

◆出願資格⑦に関して　Regarding Admission Qualification ⑦

出願資格⑦における入学資格審査申請手続等について

Application Procedure for Admission Under Qualification ⑦

1）申請期間　Application Period

平成28年６月22日（水）～６月23日（木）　必着

Wed., June 22 – Thur, June 23, 2016 (Applications must be received by this period.)

2）提出方法及び提出先　How and Where to Apply

郵送又は持参（９～17時）により，岐阜大学工学部入試係へ提出してください。

〒501-1193　岐阜市柳戸１番１　岐阜大学工学部入試係

Apply by mail or in person (between 9:00 am and 5:00 pm) to the Admissions Section of the Gifu University Engineering Dept. Admissions Section, Dept. of Engineering, Gifu University, 1-1 Yanagido, Gifu City 501-1193

3）提出書類　Required Documents

入学資格審査申請書　：所定の用紙で作成してください

Admission Qualification Evaluation Submission Form　Use the form provided by the University

履歴書（入学資格審査申請用）　：所定の用紙で作成してください

Résumé (for the Admission Qualification Evaluation Submission Form)　Use the form provided by the University

検定料以外の出願書類一式

Submission Form Package excluding test fee

4）審査方法等　The Evaluation Process

平成28年７月７日（木），13時より面接（口述試験含む）を実施します。

Interviews (including oral examinations) will be held starting at 1:00 pm, Thur., July 7, 2016.

なお，日時が変更となる場合は予め連絡します。

Note: Evaluation date and time are subject to change.

5）審査結果通知方法　Notification of Evaluation Results

平成28年７月15日（金）頃に結果通知書を本人宛に郵送します。

Evaluation results will be sent out by mail to applicants on or around Fri., July 15, 2016.

6）入学資格「認定」後の手続　What to Do After Qualifying for Admission

認定の通知を受けてから，検定料30,000円を振込み，振込証明書を提出してください。

After receiving notice of approval, remit ¥30,000 examination fee and submit Proof of Payment.

Ⅳ　障害のある者の出願に当たっての事前相談　Preliminary Consultations for Applicants with Disabilities

学校教育法施行令第22条の３に定める身体に障害を有する志願者又は発達障害を有する志願者で，受験上及び修学上の配慮を希望する者は，出願に先立ち本学に相談する必要があります。

相談の期限及び方法等は次のとおりです。

Applicants with physical disabilities who meet the criteria defined in Article 22 Part 3 of the School Education Enforcement Ordinance, or applicants who have developmental disorders and would like special assistance with their exams or studies should consult the University before applying.

The consultation deadline and process are as follows:

(1) 相談の期限　Consultation Deadline

平成28年７月４日（月）　17時まで

By 5:00 pm, Mon. July 4, 2016

(2) 相談の方法　The Consultation Process

下記の書類を岐阜大学工学部入試係へ提出してください。なお，必要に応じて志願者又は関係者との面談等を行うことがあります。

Special needs applicants must submit the following paperwork to the Admissions Section of the Engineering Department at Gifu University. If necessary, an interview will take place with the applicant or a related party.

a　障害者等受験・修学上の配慮申請書（本学所定の用紙）

Special needs applicants must submit a Special Disability Assistance for Exams and Studies Application Form (refer to the form provided by Gifu University).

b　医師の診断書又は身体障害者手帳の写し

Special needs applicants must submit a copy of their medical certificate or a physical disability handbook.

(3) 本学所定の用紙の請求方法　How to request the University prescribed application form

障害者等受験・修学上の配慮申請書の用紙を請求する場合は，返信用封筒として「長形３号封筒（縦23.5cm×横12.0cm）」にあなたの受信住所，郵便番号，氏名を記入の上，82円切手を貼付し，これを折りたたんでも構いませんので，定形内の封筒に入れ，表に「障害者等受験・修学上の配慮申請書請求」と朱書し，下記へ申し込んでください。

Applicants with disabilities can request a Special Disability Assistance for Exams and Studies Application Form by sending a self-addressed return envelope—a rectangular #3 envelope (23.5 cm long, 12 cm wide), and an 82-yen stamp affixed to the front—to the address below. The return envelope can be folded if necessary, and enclosed inside a standard-sized envelope with the following written with a red pen, on the outsaide: “Request for Special Disability Assistance for Exams and Studies Application Form.”

〒501-1193　岐阜市柳戸１番１　岐阜大学工学部入試係

Admissions Section, Engineering Dept., Gifu University, 1-1 Yanagido, Gifu City 501-1193

ＴＥＬ　058-293-2371 ／ 2372

+81(0)58-293-2383（国外）

(4) 対象者　Qualifying Disabilities

区分　Category	障害の程度　Disability Criteria
視覚障害者 Visually impaired	両眼の視力がおおむね0.3未満のもの又は視力以外の視機能障害が高度のもののうち，拡大鏡等の使用によっても通常の文字，図形等の視覚による認識が不可能又は著しく困難な程度のもの Visually impaired individuals are those whose eyesight is less than 0.3 in both eyes or who have a serious visual impairment other than visual acuity, such that they find it impossible or considerably difficult to visually distinguish words and diagrams even with the use of a magnifying glass.
聴覚障害者 Hearing impaired	両耳の聴力レベルがおおむね60デシベル以上のもののうち，補聴器等の使用によっても通常の話声を解することが不可能又は著しく困難な程度のもの Hearing-impaired individuals are those whose hearing is limited to sounds of 60 decibels and up, and who find it impossible or considerably difficult to make out a normal speaking voice even with the use of a hearing aid.
肢体不自由者 Physically disabled	①肢体不自由の状態が補装具の使用によっても歩行，筆記等日常生活における基本的な動作が不可能又は困難な程度のもの Physically disabled individuals are those who find it impossible or considerably difficult to walk without an assistive device or to engage in basic daily activities like note-taking. ②肢体不自由の状態が前号に掲げる程度に達しないもののうち，常時の医学的観察指導を必要とする程度のもの Physically disabled individuals include those whose disabilities are not as severe as the disabilities described in ①, but who nevertheless require constant medical observation and supervision.
病弱者 Sickly	①慢性の呼吸器疾患，腎臓疾患及び神経疾患，悪性新生物その他の疾患の状態が継続して医療又は生活規制を必要とする程度のもの Sickly individuals are those with chronic respiratory illness, kidney disease, nervous disorders, malignant neoplasms, or other chronic medical conditions, and require medical treatment or a regulated lifestyle. ②身体虚弱の状態が継続して生活規制を必要とする程度のもの Sickly individuals also include those with chronically weak constitutions who require a regulated lifestyle.
発達障害 Developmental disabilities	自閉症，アスペルガー症候群，広汎性発達障害，学習障害，注意欠陥多動性障害のため特別な措置を必要とするもの Individuals for whom special measures are required due to autism, Asperger's syndrome, learning disabilities, or attention deficit hyperactivity disorder.
その他 Other	上記以外で，受験上，修学上特別の配慮を必要とする程度の機能障がいを有するもの Disabled individuals include those who do not fall into the above categories but have functional impairments that are serious enough to require special consideration in order to study and take exams.

※学校教育法施行令第22条の３，発達障害者支援法第２条第１項の規程に準拠

Note: These definitions are based on those stated in the School Education Enforcement Ordinance, Article 22, Part 3, and in the Support for Persons with Developmental Disabilities Act, Article 2, Part 1.

(5) 相談の期限後に生じた不慮の事故等による場合

In the event of disability caused by sudden or unforeseen accidents after the consultation deadline

相談の期限後に不慮の事故等により障害を有することとなった場合は，その際に相談してください。

In the event of disability caused by sudden or unforeseen accidents after the consultation deadline, please consult the University.

Ⅴ　出願手続　Application Procedure

(1) 出願期間　Application Period

平成28年７月20日（水）～７月22日（金）　必着

Wed., July 20 – Fri., July 22, 2016 (Applications must be received by this period.)

(2) 出願方法　How to Apply

①持参する場合　Applying in Person

平日９時から17時までの間に受付会場へ直接持参してください。

Please visit the office between 9:00 am and 5:00 pm during the application period.

②郵送する場合　Applying by Mail

・角形２号サイズの封筒を用意し，封筒の表面の左隅に「出願書類在中」と朱書きしてください。

Please write “Contains Application Documents” on the lower left-hand corner of the envelope.

・必ず，郵便局の窓口で「簡易書留速達」として郵送し，上記の出願期間内に「必着」するようにしてください。

At the post office counter, be sure to send your application as express registered mail *(kan'i kakitome sokutatsu)*. Your application must arrive before the end of the application period.

ただし，出願期間を過ぎて到着した出願書類のうち，期限日までの消印がある「**簡易書留速達**」郵便に限り受付けます。

However, applications that arrive after the application period will be accepted if they are sent as **express registered mail *(kan'i kakitome sokutatsu)*** and postmarked before the end of the application period.

(3) 出願先及びお問合せ先　Submit application paperwork and all other inquiries to

〒501-1193　岐阜市柳戸１番１　岐阜大学工学部入試係

Admissions Section, Engineering Dept., Gifu University, 1-1 Yanagido, Gifu 501-1193

ＴＥＬ　058-293-2371 ／ 2372

(4) 出願書類等

共通注意事項　Notes Relevant to All Applicants

・出願区分（一般，社会人等）によって提出する書類が異なりますので，注意してください。

Please note that application documents vary according to the type of admission (general, continuing education, etc.).

・出願後に出願書類の内容変更は認めません。

The information in your application documents cannot be altered once the application has been submitted.

・**出願前に志望指導教員と十分に事前相談をしておいてください。**

Be advised: You should go over every detail with your guidance counselor before applying.

・志望指導教員等については，「指導教員案内」をインターネット上のＨＰからダウンロードしてください（日本語のみ）。

Note: For more information on guidance counselors, please refer to our Internet website.（Japanese only）

岐阜大学ＨＰ＞学部・大学院＞工学研究科／工学研究科オリジナルサイトへ＞入学・進学希望の方へ＞入試情報（大学院）

Gifu University Website [English] (http://www.gifu-u.ac.jp/english/) ＞ Academics ＞ Faculty of Engineering/Graduate School of Engineering ＞ Faculty of Engineering Web page (http://www1.gifu-u.ac.jp/~eng/en/) ＞ International Applicants, How to Apply, Graduate Programs ＞ The Doctoral Degree Program, Information on guidance counselors

共通　All Applicants（一般　General,　社会人　Continuing Ed.,　外国人留学生　Foreign Students）

出願書類 Application Paperwork	注意事項　Notes
入学志願票 Application Documents （履歴書　Résumé） （写真票　Photograph Card） （受験票　Exam Admission Slip）	・所定の用紙に黒のボールペンで記入してください。 Please use the forms provided by the University. ・写真票に写真１枚（出願３か月以内に撮影した上半身，無帽，正面向きの縦４cm×横３cmのもの）を貼付してください。写真裏面には予め氏名を記入してください。 Affix one photograph to the photograph card. The photo must be of your face and upper body, taken from the front, and taken within three months prior to applying. You must be bareheaded. Photo dimensions should be 4 cm long and 3 cm wide. Be sure to write your name on the back of the photo. ・志望指導教員名には，教員名をフルネームで正確に記入してください。 The full name of your desired teaching advisor should be clearly written out.
振込証明書（検定料） Proof of Payment (Examination Fee) ※取扱期限に注意してください。 Note: Pay attention to the handling deadline. ※ＡＴＭでの振込不可。 Note: Payment cannot be made through an ATM.	**検定料30,000円　Examination Fee: ¥30,000** **【本研究科博士前期課程を平成29年３月に修了見込みの者で，引き続き博士後期課程に進学する者及び国費（日本政府）留学生は不要です】** **【This fee is waived for students who expect to have completed Gifu University's pre-doctoral program by March, 2017 and continue straight into the doctoral program, as well as for foreign students sponsored by the Japanese government.】** ・所定の「入学検定料払込用紙」に住所，氏名等必要事項を記入の上，金融機関窓口で検定料を振込んでください。振込手数料は御負担願います。 Fill in your name, address, and other required details on the "Entrance Examination Fee Payment Form" provided by the University, and then pay the fee at the bank service counter. Service charge will be incurred by the applicant. ・振込んだ際に，収納印を押した「振込証明書」と「受領書」を受取ってください。「振込証明書」は振込み証明となるため，入学志願票に貼り，出願書類として提出してください。「受領書」は本研究科から「受験票」が届くまでは保管してください。 After paying, you will receive a payment certificate and a proof of payment receipt. Please affix the payment certificate to your admission application form as part of your submission documents in order to provide proof of transfer. Please keep your receipt until you receive your Exam Admission Slip from the University. **注意事項　Notes** ・「電信扱い」が利用できる金融機関（銀行，信用金庫，信用組合，農協）を御利用ください。なお，午後は「電信扱い」の取扱いができない金融機関があります。銀行等の取扱期限最終日（払込用紙に記載）は，振込手続を午前中に済ませるよう特に注意してください。 Be sure to pay at a financial institution (bank, credit association, agricultural co-op, or credit union) that can handle wire transfers. Some financial institutions cannot handle wire transfers in the afternoon. Therefore, take special care to make sure the transfer is completed in the morning if done on the bank's last handling day before the deadline (as indicated on the Fee Payment Request Form). ・いったん領収した検定料は原則として返還いたしませんので御注意ください。 Be aware that, as a rule, the examination fee will not be refunded once it has been received. ・日本国外からの志願者は，検定料の30,000円相当額に円為替取扱手数料の1,500円相当額及び被仕向送金取扱手数料の1,500円相当額を加えた合計金額を，十六銀行黒野支店普通口座（口座番号

	１３６１９４８）「岐阜大学検定料口座」へ振り込んでください。（JUROKU BANK KURONO BRANCH １３６１９４８）。なお，送金元の銀行の送金手数料＋両替手数料は別途，出願者本人が送金元の銀行に支払ってください（外国送金に関するトラブルについて，本学は一切関与しません）。また，振込んだ証拠書類の写を出願書類に同封してください。 Applicants from outside Japan must pay an examination fee equivalent to ¥30,000 plus an exchange processing fee equivalent to ¥1,500 and a foreign transfer fee equivalent to ¥1,500, which are to be deposited into our account in the name of Gifu Daigaku Kenteiryo Koza, account number 1361948 at the Juroku Bank Kurono Branch (JUROKU BANK KURONO BRANCH, 1361948). The burden of any other fees incurred while processing and transferring the money shall be borne by the applicant. (Gifu University bears no responsibility for any difficulties involved in remitting money from foreign countries.) Copies of the receipts verifying the payment should be included in the envelope along with your application forms.
あて名シール Address Label	・合格通知書等送付用です。 The address label will be used to mail your examination results. ・所定の用紙２枚ともに，合格通知書及び入学手続関係書類を本人が受け取ることの出来る場所の郵便番号，住所，氏名等を記入してください。 Please write down your name, address, and postal code on both sheets provided in order to receive examination results and other documents related to the admission procedure. （「様」を消したり，「行」に直したりしないでください。） (Do not cross out or change the “ 様 ” character.)
返信用封筒 Return Envelope ※出願書類を郵送する場合 Note: A return envelope is needed when applying by mail.	・受験票送付用に使用します。 The return envelope will be used to mail your Exam Admission Slip. ・定形封筒（長形３号）に郵便切手82円分を貼付し，本人の住所，氏名を記入してください。 Affix an 82-yen postage stamp to a rectangular #3 envelope and write your name and address on it. ・日本国外からの志願者は不要です。 Note: A return envelope is not necessary for applicants from outside Japan.

一　般　General Applicants

出願書類 Application Paperwork	注意事項　Notes
出願資格を証明する書類 Documents to Prove Qualifications for Admission	**【本研究科博士前期課程を修了した者又は修了見込みの者は不要です】** **【These documents are not required for applicants who have completed the pre-doctoral program at the Graduate School of Engineering, Gifu University, or expect to have completed it.】** ・修了（見込）証明書，学位授与（見込）証明書等，出願資格を証明するもの Proof of your admission qualifications, such as a certificate of (expected) completion from your previous university or a degree certificate (or proof of a degree you expect to receive), is required. ・出願資格⑥の該当者は，出身大学の卒業証明書 Applicants who qualify under admission qualification ⑥ are required to submit a university graduation certificate only. ・出願資格⑦の該当者は，最終出身校の卒業（修了）証明書 Applicants who qualify under admission qualification ⑦ are required to submit a certificate of graduation or completion from their most recent school.
成績証明書 Academic Transcripts	**【本研究科博士前期課程を修了した者又は修了見込みの者は不要です】** **【These documents are not required for applicants who have completed the pre-doctoral program at the Graduate School of Engineering, Gifu University, or expect to have completed it.】** ・出身大学等の学長，学部長又は研究科長が証明のうえ，厳封した学部及び大学院の成績証明書 You must submit a sealed academic university or graduate school transcript provided by the president, faculty dean, or graduate school dean of your home university. ・出願資格⑥の該当者は，出身大学の成績証明書 Applicants who qualify under admission qualification ⑥ are required to submit a university academic transcript only. ・出願資格⑦の該当者は最終出身校の成績証明書 Applicants who qualify under admission qualification ⑦ are required to submit academic transcripts from their most recent school.
修士論文概要又は構想 Master's Thesis Abstract or Grand Design	・所定の用紙で作成してください。 Use the form provided by the University. ・修士論文の内容（修了見込みの者は修士論文として予定している研究内容）を，1,000字（英文の場合は500語）程度に要約したもの Provide a 1000-character summary (500 words if in English) of your master's thesis. (If you are still completing the master's program, you should provide a summary of the research plan you intend to undertake for your thesis.) ・公表論文, 研究業績がある場合は , その写し及び研究業績調書（綴込みの所定用紙）を添付してください。 If you have any published papers or research experience, attach a copy of the paper or your research résumé. ・出願資格⑥又は⑦の該当者は，公表論文，研究業績等の写し及び研究業績調書（綴込みの所定用紙）を添付してください。 Applicants who qualify under admission qualifications ⑥ or ⑦ need to submit copies of published papers and their research résumé (using the enclosed form provided by the University).
研究（希望）計画書 Research Proposal Form	・所定の用紙で作成してください。 Use the form provided by the University.
当該大学院の受験許可書 Exam Permission Form for Graduate School	・他の大学院に在学中の者は提出してください。（任意様式） Applicants currently at another graduate school should submit this. (optional)
住民票の写し Copy of Certificate of Residence	・外国人の方は提出してください。 Submission required by foreign nationals.

社会人　Continuing Education Applicants

出願書類 Application Paperwork	注意事項　Notes
出願資格を証明する書類 Documents to Prove Qualifications for Admission	**【本研究科博士前期課程を修了した者は不要です】** **【Applicants who have completed the pre-doctoral program at the Graduate School of Engineering, Gifu University do not need these documents.】** ・修了（見込）証明書，学位授与（見込）証明書等，出願資格を証明するもの Proof of your admission qualifications, such as a certificate of (expected) completion from your previous university or a degree certificate (or proof of a degree you expect to receive), is required. ・出願資格⑥の該当者は，出身大学の卒業証明書 Applicants who qualify under admission qualification ⑥ are required to submit a university graduation certificate only. ・出願資格⑦の該当者は，最終出身校の卒業（修了）証明書 Applicants who qualify under admission qualification ⑦ are required to submit a certificate of graduation (completion) from their most recent school.
成績証明書 Academic Transcripts	**【本研究科博士前期課程を修了した者は不要です】** **【These documents are not required for applicants who have completed the pre-doctoral program at the Graduate School of Engineering, Gifu University.】** ・出身大学等の学長，学部長又は研究科長が証明のうえ，厳封した学部及び大学院の成績証明書 You must submit a sealed university academic or graduate school transcript provided by the president, faculty dean, or graduate school dean of your home university. ・出願資格⑥の該当者は，出身大学の成績証明書 Applicants who qualify under admission qualification ⑥ are required to submit a university academic transcript only. ・出願資格⑦の該当者は，最終出身校の成績証明書 Applicants who qualify under admission qualification ⑦ are required to submit academic transcripts from their most recent school.
研究（希望）計画書 Research Proposal Form	・所定の用紙で作成してください。 Use the form provided by the University.
受験承諾書 Examination Consent Form	・所定の用紙により，当該所属長が作成してください。 Your examination consent form must be made out by your boss using the form provided. ・社印等を押印してください。 Make sure the form is stamped with your company's seal.
研究業績調書 Research Résumé	・所定の用紙で作成してください。 Use the form provided by the University.
住民票の写し Copy of Certificate of Residence	・外国人の方は提出してください。 Submission required by foreign nationals.

外国人留学生　Foreign Applicants

出願書類 Application Paperwork	注意事項　Notes
出願資格を証明する書類 Documents to Prove Qualifications for Admission	**【本研究科博士前期課程を修了した者又は修了見込みの者は不要です】** **【These documents are not required for applicants who have completed the pre-doctoral program at the Graduate School of Engineering, Gifu University, or expect to have completed it.】** ・修了（見込）証明書，学位授与（見込）証明書等，出願資格を証明するもの Proof of your admission qualifications, such as a certificate of (expected) completion from your previous university or a degree certificate (or proof of a degree you expect to receive), is required. ・日本語又は英語以外で作成されたものには，日本語又は英語による訳文を添付してください（可能な限り出身大学等が作成したもの）。 Transcripts in a language other than Japanese or English should be accompanied by a Japanese or English translation (produced by the home university, if possible). ・出願資格⑥の該当者は，出身大学の卒業証明書 Applicants who qualify under admission qualification ⑥ are required to submit a university graduation certificate only. ・出願資格⑦の該当者は，最終出身校の卒業（修了）証明書 Applicants who qualify under admission qualification ⑦ are required to submit a certificate of graduation (completion) from their most recent school.
成績証明書 Academic Transcripts	**【本研究科博士前期課程を修了した者又は修了見込みの者は不要です】** **【These documents are not required for applicants who have completed the pre-doctoral program at the Graduate School of Engineering, Gifu University, or expect to have completed it.】** ・日本語又は英語以外で作成されたものには，日本語又は英語による訳文を添付してください（可能な限り出身大学等が作成したもの）。 Transcripts in a language other than Japanese or English should be accompanied by a Japanese or English translation (produced by the home university, if possible). ・出身大学等の学長，学部長又は研究科長が証明のうえ，厳封した学部及び大学院の成績証明書 You must submit a sealed university academic or graduate school transcript provided by the president, faculty dean, or graduate school dean of your home university. ・出願資格⑥の該当者は，出身大学の成績証明書 Applicants who qualify under admission qualification ⑥ are required to submit a university academic transcript only. ・出願資格⑦の該当者は，最終出身校の成績証明書 Applicants who qualify under admission qualification ⑦ are required to submit academic transcripts from their most recent school.
修士論文概要又は構想 Master's Thesis Abstract or Grand Design	・所定の用紙で作成してください。（日本語又は英語で作成） Use the form provided by the University. ・修士論文の内容（修了見込みの者は修士論文として予定している研究内容）を，1,000字（英文の場合は500語）程度に要約したもの Provide a 1000-character summary (500 words if in English) of your master's thesis. (If you are still completing the master's program, you should provide a summary of the research plan you intend to pursue for your thesis.) ・公表論文, 研究業績がある場合は , その写し及び研究業績調書（綴込みの所定用紙）を添付してください。 If you have any published papers or research experience, attach a copy of the paper or your research résumé.

	・出願資格⑥又は⑦の該当者は，公表論文，研究業績等の写し及び研究業績調書（綴込みの所定用紙）を添付してください。 Applicants who qualify under admission qualifications ⑥ or ⑦ need to submit copies of published papers and their research résumé (using the enclosed form provided by the University).
研究（希望）計画書 Research Proposal Form	・所定の用紙で作成してください。（日本語又は英語で作成） Use the form provided by the University.
住民票の写し Copy of Certificate of Residence	・市区町村長発行のもの（在留資格及び在留期限を記載したもの）。登録していない場合は，パスポートの写し（本人氏名，生年月日，性別，在留資格を記載した部分及び日本国査証の部分） This document is issued by the mayor of a city, town, or ward and states your immigration status and period of stay. If you have not been registered, you may enclose a copy of your passport (the pages containing your name, date of birth, gender, and immigration status or visa).
当該大学院の受験許可書 Examination Permission Form	・他の大学院に在学中の者は提出してください。（任意様式） Applicants who currently attend another graduate school will need to submit an examination permission form from that school.
国費（日本政府）留学生証明書 Certificate of Japanese Government Scholarship Student	・国費（日本政府）留学生のみ提出してください。 Only Japanese government scholarship students. ・出身大学等の学長，学部長等が証明したもの。 The document must be certified by the president or faculty dean of your previous university.

Ⅵ　入試方法　The Admission Exam Process

共通注意事項　Notes Relevant to All Applicants

・試験実施場所等については，当日，岐阜大学工学部正面玄関に掲示します。
The exam venue will be posted on the day of the exam in the main lobby of Gifu University Engineering Department.

・試験当日は，必ず受験票を持参してください。
Be sure to bring your Exam Admission Slip on the day of the exam.

・試験開始時刻に遅刻した場合は，試験開始後30分以内に限り受験を認めます。
Applicants who arrive late for the start of the exam will be permitted to take the exam as long as they arrive within 30 minutes of the exam start time.

入試方法　Exam Process

一　般　General Applicants　**外国人留学生**　Foreign Applicants

・成績証明書，修士論文概要又は構想，研究（希望）計画書を基に，面接（口述試験，プレゼンテーションを含む）を実施し，合否を判定します。
Based on your academic transcript, Master's thesis outline or plan, and research proposal form, we will conduct an interview (including an oral examination and presentation) and determine whether you pass or not.

社会人　Continuing Education Applicants

・成績証明書，研究（希望）計画書及び研究業績調書を基に，面接（口述試験，プレゼンテーションを含む）を実施し，合否を判定します。

Based on your academic transcript, research proposal form, and research resume, we will conduct an interview (including an oral examination and presentation) and determine whether you pass or not.

共通　All Applicants（一般　General，社会人　Continuing Ed.，外国人留学生　Foreign Students）

（1）試験日時　Exam Date and Time

試　験　日 Date	試験内容 Exam	時　間 Time	集合場所 Place
平成28年８月26日（金） Fri., August 26, 2016	面接 Interview	13時集合 Assembly at 13:00	工学部正面玄関 前にて掲示 Present this at the front entrance to the Engineering Division.

（2）配点　Scoring

専　攻 Division	講　座 Courses	面　接 Interview	計 Total
生産開発システム工学専攻 Mechanical and Civil Engineering Division	社会基盤工学 Civil Engineering	100	100
	生産基礎工学 Mechanical Engineering	100	100
物質工学専攻 Material Engineering Division		100	100
電子情報システム工学専攻 Electronics and Information Systems Engineering Division	電子物性工学 Electronic Materials Engineering	100	100
	知識情報工学 Knowledge and Information Engineering	100	100
環境エネルギーシステム専攻 Environmental and Renewable Energy Systems Division		100	100

（3）欠格事項　Reasons for Disqualification

面接の得点が，配点の70％未満の者は欠格とする。

Those who score less than 70% on the interview will be disqualified.

（4）面接の際の持込み物品等について　Items to Bring for the Interview

面接時にこれまでの研究および研究計画に関するプレゼンテーションを30分程度で行っていただきますので，各自でノートパソコンとプレゼンテーション用データを用意してください。

Note: Applicants are to give a 30-minute presentation on their past research and research plan in the interview. For this purpose, please bring a laptop computer and presentation data.

Ⅶ　合格者発表　Notification of Examination Results

日　　時 Date	場　　所 Place
平成28年９月６日（火）12時 12:00 pm, Tue., Sept 6, 2016	岐阜大学工学部正面玄関前 Main lobby of the Gifu University Engineering Department.

・工学部正面玄関前に合格者の受験番号を掲示し，合格者には同日に合格通知書及び関係書類を郵便発送します。

The exam ID numbers of successful participants will be posted in the main lobby of the Gifu University Engineering Department. Participants who pass will be sent an acceptance notification and other related documents by mail.

・電話での問い合わせには，一切応じません。

Results of the exam cannot under any circumstances be provided over the phone.

・岐阜大学ホームページ（http://www.gifu-u.ac.jp/）に合格者の受験番号を掲載します。掲載期間は，合格者発表日から１週間です。ただし，ホームページでの発表は参考として閲覧の上，正規の合格者発表により確認してください。

Successful participants examination numbers will be posted on the Gifu University website (http://www.gifu-u.ac.jp/).
Viewable for one week from the announcement.However, please browse by reference presentation at the home page.

Ⅷ　入学手続　Enrollment Procedure

(1) 入学意思回答書の提出について　Submitting an “Intent to Enroll” Form

・合格者発表の後，合格通知書とともに「入学意思回答書」を郵送します。

Once informed that you have passed the admission exam, you must send in an Intent to Enroll form along with your examresults notification.

・合格者は，平成28年９月23日（金）までに「入学意思回答書」を工学部入試係へ必ず提出してください。

Successful applicants must submit these documents to the Admissions Section by Fri. Sept. 23, 2016.

(2) 入学手続等関係書類の送付について　Documents Related to the Enrollment Procedure

・合格者には，平成29年２月初旬に「入学手続案内」を郵送します。入学意思回答書で“入学しない”と回答した方にも郵送しますので、予め了承願います。

Successful applicants will be sent an Enrollment Procedure Guide at the beginning of February, 2017. Please be advised that all applicants, including those who respond “Not Enrolling” on the Letter of Intent to Enroll, will be sent a notification by mail.

・入学手続は，平成29年２月中旬を予定しています。

The enrollment procedure is expected to take place in mid-February, 2017.

(3) 入学辞退について　Declining to Enroll

・入学手続を所定の期日までに行わない者は，本学への入学の意思がなく，入学を辞退したものとみなします。

Those who fail to undergo the enrollment procedure by the set deadline are assumed to have declined enrollment with no intent to enroll.

(4) 入学手続時に要する経費について　Fees Due at Time of Enrollment

入学料　282,000円（予定額）

Enrollment Fee: ¥282,000 (estimated total)

※本研究科博士前期課程を平成29年３月に修了し，引き続き博士後期課程に進学する者及び国費（日本政府）留学生は不要です。

Note: The enrollment fee is waived for students who are completing Gifu University's pre-doctoral program and advancing straight into the doctoral program, as well as for successful foreign candidates who are sponsored by the Japanese Government (Ministry of Education)..

学生教育研究災害傷害保険料　4,070円（付帯賠責含む）

Student Education Accident and Disability Insurance Fee: ¥4,070 (incidental liability insurance included)

・詳細については，「入学手続案内」でご確認ください。

Please refer to your Enrollment Procedure Guide for more information.

・入学料は予定額であり，改定が行われた場合には改定時から新たな金額が適用されます。

The amounts indicated here are the estimated total; however for any revised fees, the revised amount will be applicable following fee revision.

Ⅸ　授業料　Tuition Fees

授業料（前学期分）　267,900円（年額535,800円）（予定額）

Tuition Fee (First Semester): ¥267,900 (¥535,800 for the year) (estimated total)

※国費（日本政府）留学生は不要です。

Note: Tuition fees are waived for students sponsored by the Japanese government.

・前学期分の授業料は５月に口座振替にて納入していただきます。

Tuition fees for the first semester must be paid via bank account transfer in May.

・詳細については，「入学手続案内」でご確認ください。

Please refer to your Enrollment Procedure Guide for more information.

・授業料は予定額であり，改定が行われた場合には改定時から新たな金額が適用されます。

The amount indicated here are the estimated total; however for any revised fees, the revised amount will be applicable following fee revision.

共通連絡事項　Information Sharing

Ⅰ　個人情報の取扱いについて　Personal Data Handling

提出された志願票等に記載された氏名，性別，生年月日，住所，電話番号等の個人情報は，入試情報処理システムに登録されますが，本学は，志願票等及び登録された個人情報を責任をもって管理・保管します。

入学試験業務終了後は，この個人情報を次のいずれかに該当する場合を除いて利用することはなく，また，第三者に開示することもありません。なお，第三者とは，本学入試業務担当者のうち，個人情報に接する必要がある者以外の者とします。

Information submitted on the application forms, such as your name, gender, date of birth, address, and phone number, will be entered into the admissions information processing system. Gifu University manages and stores personal information received through applications and other documents in a responsible manner. Once enrollment processing has been completed, your personal information will neither be used in any way nor be shared with any third party, other than the exceptions stated below. “Third parties” include admissions staff who have no right to access your personal information.

(1) 合格者について，入学手続きに必要なデータを使用する場合

Personal data may be used as required for processing a successful applicant’s enrollment.

(2) 入学者について，学生証の作成，カリキュラム登録，成績管理等，本人が大学生活をする上で必要な事務にデータを使用する場合

Personal data about enrollees may be used as required to facilitate administrative duties, such as creating student IDs, course registration, and transcript administration.

(3) 入学者選抜に係る統計・調査・分析のために使用する場合（ただし，この統計・調査・分析に従事する者は特定の者とし，公表する場合，個人識別ができない状態で行います。）

Personal data may be used to compile statistics, conduct investigations, and perform analyses with regard to the admissions screening process. However, any publication of such statistics, investigations, and analyses will be conducted without revealing personal information.

(4) 本人の同意が得られた場合

Personal data may be used with the applicant’s consent.

(5) 法令等により開示が求められた場合

Personal data may be released in instances where it is required by law.

Ⅱ　学生募集要項の請求方法　Requesting a Student Recruitment Guide

学生募集要項は，本人の住所・氏名を明記し，250円分の切手を貼った角形２号（縦33cm，横24cm 程度）の返信用封筒を同封して請求してください。

送付する封筒の表面に，「博士後期課程学生募集要項請求」と朱書き願います。

Student recruitment guides can be requested by sending a rectangular #2 return envelope (33 cm long, 24 cm wide) with a self-addressed 250-yen stamp affixed to it. On the outside of the enclosed envelope, please write with a red pen “Doctoral Program Student Recruitment Guide Request”.

Ⅲ　検定料返還に関しての留意事項　Important Notice Regarding Examination Fee Refunds

①次の場合を除き，一旦領収した検定料は原則として返還しません。

Excluding the following cases, examination fees, once paid, will not be refunded as a rule.

a　出願書類が受理されなかった場合

Application documents have not been received.

b　検定料を誤って二重に振り込んだ場合

Examination fees were accidently remitted twice.

c　検定料を振り込んだが，出願書類を提出しなかった場合

Examination fees were remitted, but application documents have not been submitted.

②返還請求の方法

How to Request a Refund

次のａ～ｆを明記した検定料返還請求書を作成し,「岐阜大学検定料振込金（兼手数料）受領書」を添付して，岐阜大学工学部入試係（〒501-1193　岐阜市柳戸１番１）まで郵送してください。（封筒には「検定料返還請求書　在中」と朱書きしてください。）

なお，返還請求は平成28年７月１日（金）から試験前日までにお願いします。

Fill in an examination fee return request form clearly specifying the following items. Be sure to attach your Gifu University Examination Fee Payment (and Processing Fee) Receipt, and mail it to Gifu University Faculty of Engineering Admissions Department (1-1 Yanagido, Gifu-shi 501-1193). (On the envelope, write in red ink “Examination fee return request form enclosed”.)

We ask that refund requests be submitted between Mon., Aug 1, and the day before 2016 examination.

a　返還請求の理由

Reason for requesting a refund

b　志願者氏名（フリガナ），押印

Name of applicant (with furigana) and stamped with your personal seal

c　現住所

Current address

d　連絡先電話番号

Contact phone number

e　志望専攻名等

Division you applied for and other details

f　検定料を受け取る銀行名，支店名，預貯金種別，口座番号，口座名義（フリガナ）

Name of bank, bank branch, type of savings account, account number, and account name (with furigana) for receiving the examination fee.

Ⅳ　岐阜大学への案内　Access to Gifu University

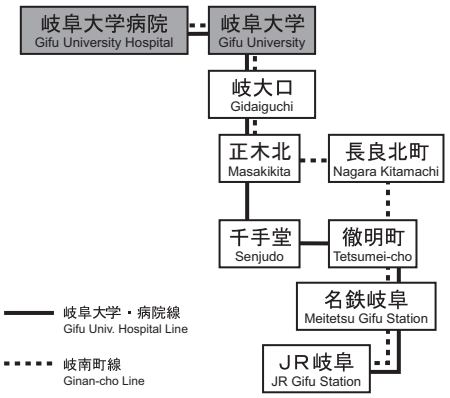
（1）公共交通機関の案内（平成28年３月現在）　Public transportation information (as of March, 2016)

行先 Destination	路線名 Route Name	ＪＲ岐阜駅 乗車 Bus Platform at JR Gifu Eki-mae	名鉄岐阜駅 乗車 Bus Platform at Meitetsu Gifu Eki-mae	降車 Disembark
岐阜大学病院 Gifu University Hospital	［Ｃ70］岐阜大学・病院線 （西野町経由） [C70] Gifu University/Hospital Route (Via Nishino-machi)	ＪＲ岐阜駅前（北口） バスターミナル **9**番乗り場 Platform #9 at JR Gifu Eki-mae (North exit)	名鉄岐阜駅前（北進） **5**番乗り場 Platform #5 at Meitetsu Gifu Eki-mae	岐阜大学 Gifu University
	［Ｎ45］岐南町線 （長良北町経由） [N45] Ginancho Route (Via Nagarakita-machi)		名鉄岐阜駅前（北進） **4**番乗り場 Platform #4 at Meitetsu Gifu Eki-mae	

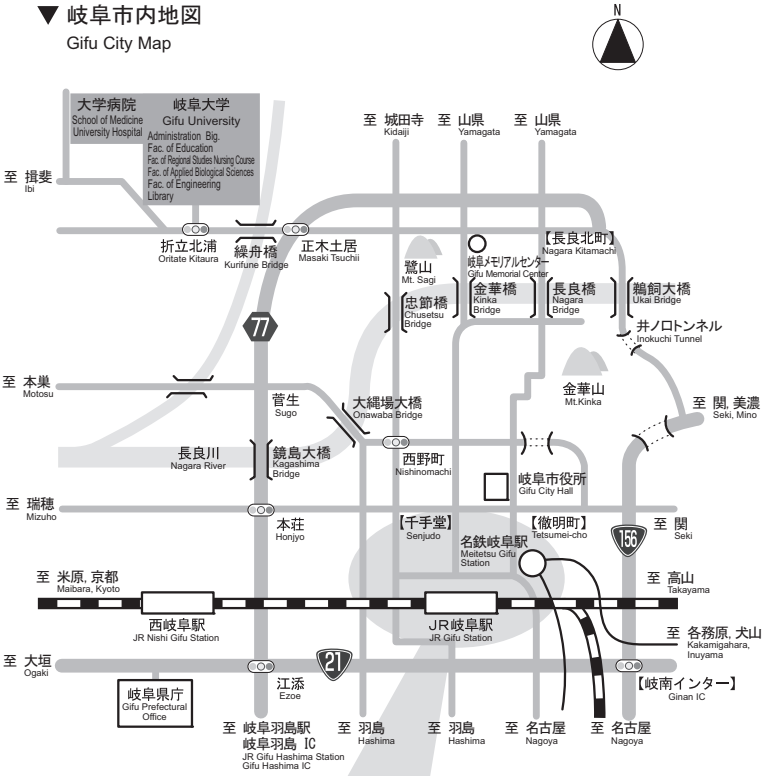
1．所要時間は通常約30 ～ 40分ですが，市内の交通事情により大幅に上回ることがあるので注意してください。
The required commute time normally take, 30 to 40 minutes, depending on the traffic conditions.

2．乗り場や発車時刻などの詳細は，岐阜バスのホームページ等で事前に確認してください。
For details regarding the bus stops and time schedules, please refer to the Gifu Bus website in advance.

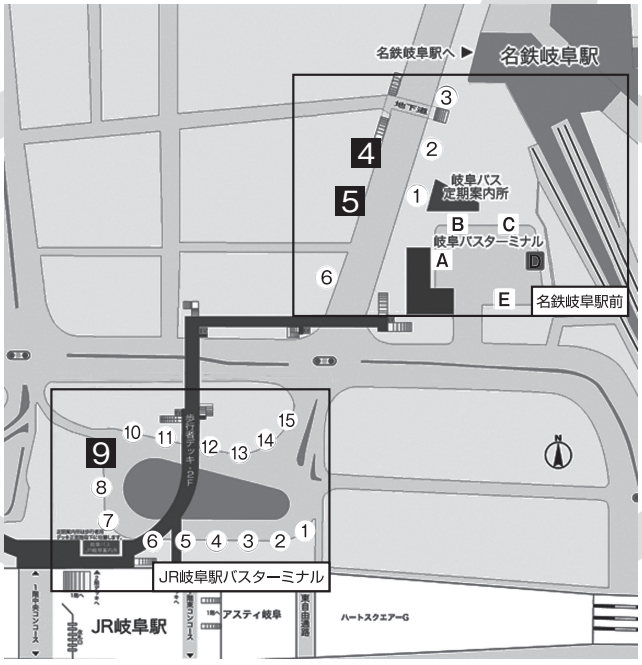
▼ バス路線図（略図）
Bus Route Map



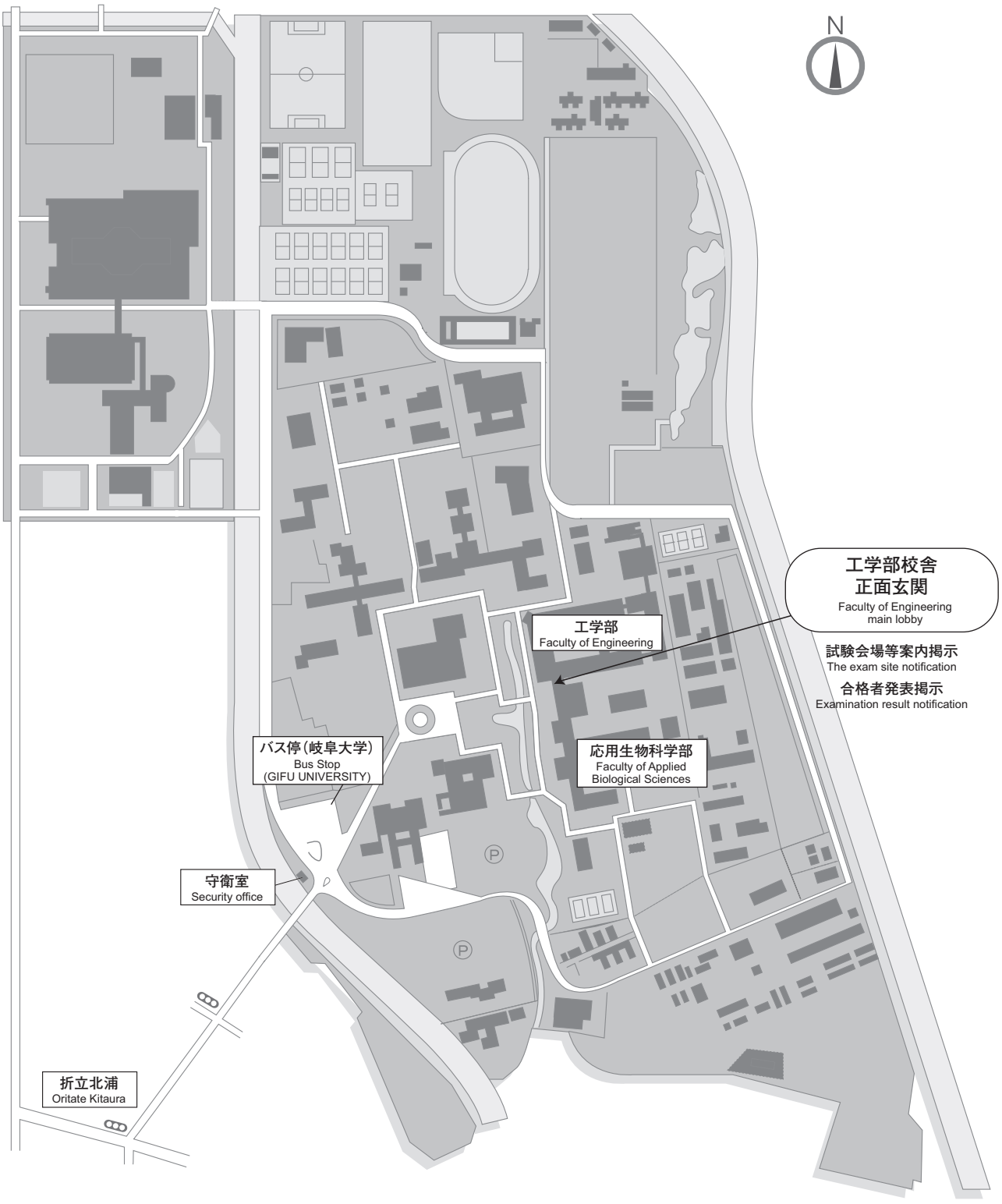
▼ 岐阜市内地図
Gifu City Map



▼ JR岐阜駅・名鉄岐阜駅前バス乗り場
Bus Platform Map



（2）岐阜大学構内案内図　Gifu University Campus Map



Ⅴ　入試結果の情報開示　Disclosure of Examination Results

・開示内容

受験者本人からの請求に基づき，本人の得点（合否判定に使用した総得点）を開示します。また，合格者には合格した募集単位の試験成績（最高点，平均点，最低点）を併せて開示します。なお，小論文，面接のみの試験については開示しません。募集単位の合格者が４人以下の場合は開示しません。また，合格者が10人以下の場合は，最低点を開示しません。

※本試験は面接のみのため，本人の得点及び合格者の試験成績は開示しません。

The test taker's score (the total score used to determine a pass or failure) will be disclosed only at the individual's request. This will be disclosed together with general examination performance (highest score, average score, lowest score) of those who passed. However, essays and interviews will not be disclosed. If there are four or fewer successful applicants for the desired credits, examination performance will not be published, and if there are ten or fewer successful applicants, the lowest score will not be published.

***This examination consists of an interview only, so the test taker's score and the general examination performance of successful applicants will not be disclosed.**

博士後期課程案内　Regarding the Doctoral Program

Ⅰ　博士後期課程の概要と目的　Overview and Purpose of the Doctoral Program

現在の工業社会は，日進月歩の科学と技術に支えられています。工業社会を発展的に維持していくためには，広範な分野での研究が従来に増して必須の条件となっています。しかし，その基礎となる科学技術の研究，とりわけ工学の研究はいまだ十分に機能しているとはいえません。欧米の科学技術をひたすら導入し，生産性の向上に終始した日本の技術は創造性に乏しく，飛躍的な革新が少ないという指摘がしばしばなされるゆえんです。先進の既存の技術に追いつくことを目標としていた従来はともかく，今後の日本の工業を発展的に維持していくためには，確固とした基礎技術の確立とともに既存の技術をブレークスルーする創造的な研究を実現していく必要があります。そのためには，複雑な課題を科学的に解明し，創造的，かつ柔軟にその課題に対処できる研究者・技術者を養成しなくてはならなくなり，実際に社会的にもそのような研究者・技術者が広範な分野で求められる状況となってきました。

Our modern-day industrial society is continually by sustained scientific and technological advances. In order to realize the continuing advancement in our industrial society, conducting more research into an ever wider range of fields than before is essential. The fundamental areas requiring research are science, technology, and most of all, engineering; desplte the fact that, our present work in these areas is still insufficient. That is reason why, more often than not, we turn to Western science and technology, why our technology remains bereft of creativity in spite of Japan's continual industrial growth, and why revolutionary innovations so seldom occur. Despite our past goal to modernize through our existing advanced technology, we need to conduct creative research in both firmly established technologies and areas where breakthroughs can occur, in order to maintain Japan's industrial development into the future. For that purpose, we deem it necessary to nurture researchers and technologists who can, through their creativity and flexibility, utilize science to solve modern complex problems. Japanese society has come to the point where those kinds of researchers and technologists are greatly sought after in a wide range of fields.

このような要請に応えるために，本研究科博士後期課程では，次のような４専攻を設けています。

In answer to this demand; our graduate school doctoral program has established the following four divisions of study:

① 社会基盤工学講座と生産基礎工学講座で組織し，土木工学と機械システム工学の両領域及び境界領域をカバーする学際的な研究を行う生産開発システム工学専攻

The Mechanical and Civil Engineering course focuses on interdisciplinary research that covers the twin domains of civil engineering and mechanical engineering, as well as related areas, by offering courses on infrastructure engineering and industrial engineering.

② 応用材料化学講座と応用分子化学講座で組織し，物質の性質，機能，作用機構を明らかにし，有用物質を分子設計又は機能設計する物質工学専攻

The Material Engineering course explores the characteristics, functionality, and reaction mechanisms of various materials, as well as molecular and functionality design, by offering courses on applied material chemistry and applied molecular chemistry.

③ 電子物性工学講座と知識情報工学講座で組織し，新しいエレクトロニクスの応用分野の研究・開発能力を持つシステム型技術者の養成のための電子情報システム工学専攻

The Electronics and Information Systems Engineering course aims to nurture systems-oriented technologists with practical skills in the research and development of new electronics, by offering courses on solid-state electronics engineering and information engineering.

④　２つの基幹講座（環境システム講座・再生可能エネルギーシステム講座），１つの協力講座（環境基礎科学講座）及び１つの連携講座（新機能エネルギー材料学講座）で組織し，社会的要請に基づいたクリーンで再生可能なエネルギー，リサイクル可能なエネルギー，従来型エネルギーの新利用形態，未利用エネルギーの開発と自立分散型新エネルギーシステムの基盤を実現できる高い専門性を持つ独創性のある研究者や技術者の養成のための環境エネルギーシステム専攻

The Environmental and Renewable Energy Systems course aims to nurture creative and highly specialized researchers and technologists to establish the groundwork for clean, renewable energy based on social demand; for recyclable energy; for new uses of existing energy sources; for the development of unused energy resources; and for independent, distributed new-energy systems; by offering two core courses on environmental systems and renewable energy systems, one cooperative course on and one liaison course on novel energy materials science.

本研究科博士後期課程における教育方法の特徴は，幅広い応用力や開発能力を身につけた独創性のある技術者・研究者を養成するため幅広く，かつ深化した専門教育をすることにあります。また，実社会経験者の博士（工学）の学位取得を推進するために，企業等に在職したまま本課程に在籍することを認め，研究テーマによっては企業等での研究成果を生かして，実際に大学で行う研究時間を少なくしても研究成果を評価し得るシステムも取りいれています。その結果修業年限にも柔軟性を持たせることとしました。

さらに，学問の国際化に資するために，外国人留学生の受け入れも積極的に図ります。

なお，研究分野・教員名等の詳細は，岐阜大学工学研究科のホームページで確認してください。

The educational methodology used by our graduate school doctoral program aims to provide an extensive, and at the same time, highly specialized education in order to nurture creative technologists and researchers with extensive skills in the development and applied of technology. In addition, in order to promote the earning of doctoral engineering degrees by those who already passes actual work experience, we are allowing applicants who currently work in industries to remain at their jobs while enrolled.

Furthermore, an evaluation system has been implemented to evaluate the research findings of students in industries whose research theme shows practical application in the respective industries they have spent most of their research time in.

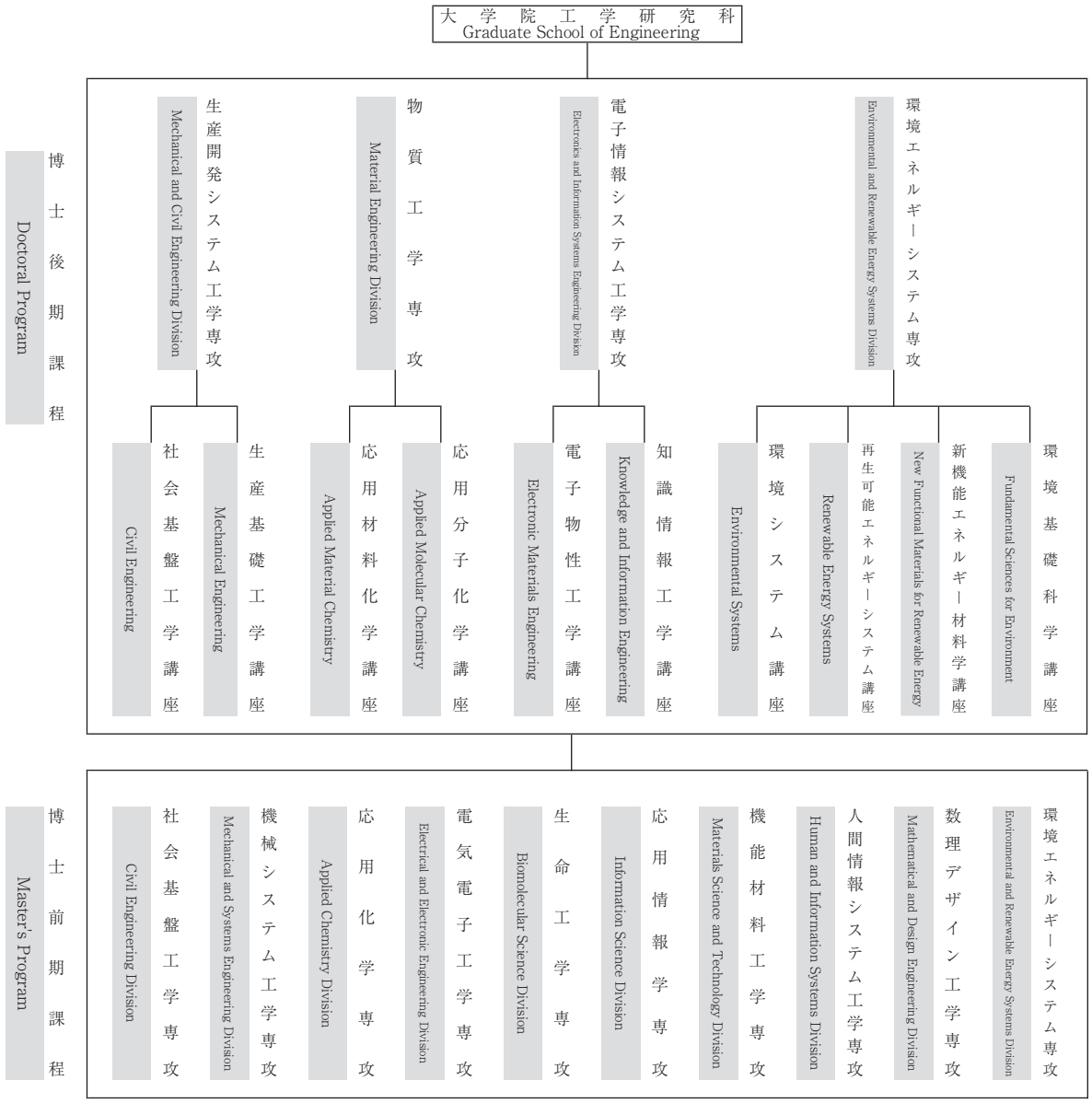
As a result, we have provided more flexibility in their course design.

Moreover, in order to promote internationalization in our program, we are actively seeking foreign students.

For more details on our program's research fields and instructors, we invite you to refer to at the Gifu University Graduate School of Engineering Website.

Ⅱ　研究科の構成　Graduate Program Organization

本研究科の組織は，次のとおりです。　Our graduate school is organized as follows:



Ⅲ　教育目的　Educational Aims

(1) 生産開発システム工学専攻　Mechanical and Civil Engineering Division

博士前期課程の専攻をさらに探究することも，学際的に専攻することも可能とし，柔軟かつ有機的にプロジェクト体制の教授陣を編成して教育を行い，人類社会とそれを支える産業構造の改革に寄与し，豊かで快適な社会環境を実現するための国土の高度開発・利用と工業生産技術の絶え間ない向上に関する能力を備えた研究者や高度専門技術者を育成することを目指します。

The division aims to educate advanced engineers / researchers who possess basic applied knowledge in mechanical / civil engineering, the latest knowledge in at least one field of specialization, and the capability to integrate this knowledge in order to carry out design, research and development independently.

社会基盤工学講座　Civil Engineering

地球環境との共生を図りつつ，生活環境と各種社会の基盤を整備すること及び自然災害の防止と制御を目的とする社会施設を拡充することは，今後の人類社会の持続可能な発展に向けて必要不可欠なものです。都市化や高齢化が著しい我が国では，これらの社会基盤施設を構築・整備し，質的にも量的にも，効率的に向上させる必要があります。

さらに交通システムや，ライフライン，防災施設などの社会基盤施設の開発と維持管理のための研究と教育は，文明社会の基礎です。このような素地を持つ高級技術者を養成する社会的要請は極めて大きいものがあります。本講座は，このような観点から，施設構造物の設計・安全性診断及び建設材料の開発を扱う「施設構造学」，施設を支える地盤機能の改善・開発・保全を扱う「地盤機能学」，河川・海域の特性解明に基づいて，水環境の創造と保全を扱う「水環境工学」及び都市施設の効率的・機能的体系を計量的に評価する「都市工学」の教育と研究を行います。

The expansion of social facilities to provide the foundation for our social environment and to prevent or control natural disasters so that we can continue to live in harmony with our world will be an indispensable requirement for the sustainable development of human societies in the future. Japan, a country notable for its urbanization, is undergoing a rapid shift as its society ages, hence this necessitates efficiency and improvement in the quality and quantity of infrastructure construction and maintenance. Furthermore, education and research on the development and maintenance of transportation systems, lifelines, disaster prevention facilities, and other infrastructures are the foundation of a modern society. Society's need for nurturing highly-skilled engineers with the aptitude to carry this out is tremendous.

With this viewpoint in mind, our courses facilitate education and research in various areas: in Structural Engineering, which involves design and safety diagnosis of structures as well as the development of materials; in Geotechnical Engineering, which involves the development, improvement, and maintenance of structural foundations; in Water Environmental Engineering, which involves the creation and preservation of water-based environments; and in Urban Engineering, which quantitatively evaluates the efficiency and functionality of urban facilities.

生産基礎工学講座　Mechanical Engineering

社会環境の変貌に伴い，工業製品に対する社会的ニーズは多様化・高度化しつつあり，メカトロニクスに代表される複合技術や先端技術を適用した高性能・高品質の工業製品を高能率で生産することが望まれています。工業製品の生産に関与する基盤技術は，計画・設計，加工・成形，計測・制御，検査・保全などの多岐に亘り，個々の基礎技術についてより一層の進展を画するとともに，近年のコンピュータ援用工学に見られるように，有機的な統合が必要不可欠です。

このような背景を踏まえて，生産基礎工学講座は，高性能・高機能・高信頼度の工業製品を適正な能率と良好な経済性のもとで生産するための基礎技術の追究，さらに，技術及び管理に関する情報処理を含めた個々の生産技術のシステム化，それらをサブシステムとして有機的に統合するコンピュータ援用統合システムの研究を目的としています。

この目的に沿って，本講座は，生産に関する各種基盤技術を支援，高度化するための基礎理論，材料・機械構造系の信頼性向上・安全性確保を指向する構造解析・材料強度評価・診断システム，無人化・省力化及び品質・生産性向上を指向する加工・成形システム・設備診断システム，性能・効率向上を指向する流体・熱エネルギー変換システムと熱・流動解析システム，熱・物質移動メカニズムの解明を指向する計測・データ処理システム，高速応答・高精度制御を指向する機構系ダイナミックス・機構系制御システム・機能設計システムなどの開発・展開・構築に必要な基礎的・学際的な工学と技術についての高度な教育と研究を行います。

With the transformation of our social environment and the continually increasing diversification and sophistication of our society's need for manufactured goods, there is a desire to produce high-performance, high-quality manufactured goods in a highly efficient manner that involves cuttingedge technology and composite technologies, of which mechatronics provides a good example. Basic technologies that play a part in the production of manufactured goods include design and planning, processing and molding, measurement and control, and inspections and maintenance. As recent development of computer-aided engineering shows us, it is absolutely necessary not only to further develop those fundamental technologies but also to pursue organic integration among them.

With all these in mind, our objectives for our mechanical engineering courses are to study fundamental technologies used in the efficient and economically sound production of sophisticated, highperformance, highly reliable manufactured goods, and furthermore, to conduct research on the systematization of individual manufacturing technologies, including technology and administration-related information processing, and on integrated, computer-based systems that organically incorporate these technology systems as subsystems.

In keeping with these objectives, our courses facilitate education and research on the fundamental interdisciplinary engineering fields and technologies that are necessary for the development, expansion, and construction of: (1)fundamental theory; (2)structural analysis, material strength assessment, and diagnostic systems for improving the reliability of materials and mechanical structures and safety improvement; (3)molding systems, equipment diagnostic systems, and processes to automate and reduce labor, improve quality, and boost production; (4)fluid- and heat-energy conversion systems and heat/fluid analysis systems for improving efficiency and performance; (5)monitoring systems and data processing systems for understanding heat and material transfer mechanisms; and (6)system dynamics, machinery control systems, and operational design systems that provide highly responsive and accurate control in order to support and advance all basic technologies related to manufacturing.

(2) 物質工学専攻　Material Engineering Division

これまでの化学の専門分野にとどまらず，広く物質科学全般の知識と研究方法を駆使して，物質の静的並びに動的性質を解明し，そこから人類・社会のニーズに沿って豊かな創造物を生み出すことを目標として研究を進め，広い視野，深い専門知識，幅広い研究方法と応用展開能力を身に付け，研究や開発を指導的に推進する能力を備えた研究者と高度技術者を育成します。

The specialized field of chemistry requires full utilization of the latest knowledge and research methods concerning materials science. Our focus is to clarify the static and dynamic natures of materials, and to develop solutions for human and social needs. We bring up researchers passessing the ability to promote their research application and methodology at international forums and with a broad vision of the future. Researchers and advanced technical experts in this division will have the ability to guide and promote any research and development projects.

応用材料化学講座　Applied Materials Chemistry

本講座は，化学を基礎としつつ，さらに広く物質科学全般にわたる知識体系と方法論を駆使して物性と機能を解明し，そこから人類社会の進展とニーズに適した豊かな創造物とその製造工学を生み出すことを意図しています。したがって，物質の物性と機能を評価すること，それらの発現機構を科学的に解明し，かつ体系づけて，その基礎理論の進展を図ること，分子設計・素材設計・機能設計により新規材料を創造し，新規機能を創出すること，これらの応用工学を考究すること，さらに，資源とエネルギーの有効かつ高度な利用を目指して有用物質の省資源・省エネルギー製造工学の開発と進展を図ることを目標とします。

このような観点から，本講座の教育と研究は，物理化学・無機化学・有機化学・化学工学のみならず広く固体物理学や物性論などの関連学問分野をも基礎とします。これらの基礎の上に立ち，金属の炭化物，窒化物，酸化物，カルコゲナイドなどの無機物質，低分子から高分子までの有機物質，有機金属化合物並びにそれらの複合体を対象とし，これら物質の電気及び電子特性，磁性，光学特性，エネルギー変換特性，伝熱性，耐熱性，力学特性及び触媒作用等の評価とそのミクロな観点からマクロな観点にわたる幅広い解析，それらの特性に優れた物質の開発並びにその生産プロセスの開発等に必要な技術，知識及び方法論について高度な研究と開発を行います。

さらに，これらの開発に関する基礎研究と新素材の工業化に寄与し得る優れた創造力を持ち，かつ関連するエレクトロニクス，メカニカルエンジニアリング，あるいは材料工学等と有機的に深い連携を保ち，それらの分野と接合した境界領域で複合技術を発展させる能力をも兼ね備えた研究者と高度な技術者の育成を目指します。

This course is grounded in chemistry and aims to foster an understanding of the properties and capabilities of a wider range of materials through the use of information systems and methodologies, and then to explore new materials that will fully meet the demands of human society and progress as well as methods for engineering those materials. Thus, the course objectives, are (1) to evaluate the properties and capabilities of different materials; (2) to understand the mechanisms for producing those materials as well as creating an organizational system and advancing fundamental theory; (3) to create new materials with capabilities through molecular design, materials design, functionality design; and furthermore; (4) to plan for the effective and advanced use of resources and energy by developing and advancing more resource-efficient and energy-efficient manufacturing methods.

Based on this viewpoint, the education and research conducted in this course will be based not only on physical chemistry, inorganic chemistry, organic chemistry, and chemical engineering, but also a wide range of related academic fields such as solid-state physics and condensed material theory. Grounded in these fundamentals, this course will allow students to explore inorganic substances such as metal carbides, nitrides, oxides, and chalcogenides; organic substances from simple molecules to macromolecules; and organometallic compounds and their complexes. Students will evaluate the electrical, electronic, magnetic, optical, energy converting, heat transmitting, heat insulating, dynamic, and catalytic properties of these substances; and they will conduct advanced research and development into the technologies,

knowledge, and methodologies required to perform broad analyses ranging from the microscopic to the macroscopic, and develop advanced materials that possess all these properties as well as the manufacturing processes to produce them.

Furthermore, this course aims to nurture researchers and highly-skilled technologists who possess outstanding creativity needed to commercialize fundamental research and new materials that result from this development; who will maintain a deep, organic relationship with such related fields as electronics, mechanical engineering, and materials engineering; and who will acquire the skills to advance complex technologies that combine these fields with peripheral scientific domains.

応用分子化学講座　Applied Molecular Chemistry

本講座は，低分子から高分子に至る広範な有機合成物質及び生体関連物質並びに生物機能の工学的応用について，分子レベルでそれらの性質，機能，変化過程及び作用機構を科学的に解明し，さらに優れた機能を持つ新規有用物質の分子設計，開発，生産及び応用についての教育・研究を行います。本講座の教育と研究においては，低分子有機化合物の構造と機能との相関関係を最新の物理化学機器などを駆使して，理論的，実験的に検討します。さらに新しい機能を付与するための分子設計，反応設計を行います。特に対象としては，ヘテロ原子，金属などを含む有機化合物に重点を置き，新素材開発への寄与を目指します。

また，光，触媒，情報，認識，輸送など多岐にわたる機能性有機化合物の開発を目指し，既存の有機合成機能物質や生理活性物質については，機能発現機構に関する教育と研究を進めるとともに，優れた生体機能の原理を模倣して，新たな機能を持つ有機化合物を合成します。さらに，化学工業をはじめ多くの分野の産業界に有用な物質を提供し，環境改善などにも役立つ研究を行うと共に，技術者を育成します。

高分子物質に関しては，新しい機能を付与した物質を合成するとともに，その合成反応に関する基礎的教育と研究を行います。ついで，これら機能発現と物性，分子構造，高次構造などとの関連について考察を行い，さらに優れた機能性高分子を開発するための分子設計の指針を確立するとともに，生産プロセス，応用，加工などについての教育と研究を行います。

生命工学指向新技術の確立及び技術者の育成を目的に，本講座に生物工学を加え，有用な生物活性物質の高効率合成，創薬基礎科学研究推進のための特異的機能探索分子の合理的分子設計，生体機能発現における生理活性物質と生体高分子との分子作用機作の解明及びそれに基づく人工生体機能制御物質の創製，生体反応制御及び遺伝子操作による高機能物質の構築，試験管内分子進化を取り入れた新規生理活性物質の探索や非天然超タンパク質の創製など最新の生物工学的手法の基礎及び応用的展開に関する教育及び研究を行います。

This course is concerned with the engineering applications of a wide range of synthetic organic substances, biological substances, and biological functions ranging from simple molecules to macromolecules; and it aims to develop a scientific understanding of the characteristics, capabilities, transformation processes and interaction mechanisms of these substances at the molecular level, as well as providing opportunities for education and research on molecular design, development, production, and application of useful new materials with superior characteristics. Through the study and research offered in this course, students will be offered the opportunity to investigate, theoretically and empirically, the correlation between the structure of simple organic compounds and their functionality using the latest physical and chemical equipments. They will, through molecular design and feedback, imbue materials with entirely new properties. In addition, the course will help students contribute to the development of new materials with an emphasis on organic compounds that contain heteroatoms and metals.

The course also covers the development of organic compounds that provide a wide range of functionality including light, catalysis, information, recoganition, and transport; and in addition to promoting education and research related to functionality development mechanisms in existing synthetic organic functional materials and physiologically active materials. Students will mimic the amazing biological functionality possessed by living organisms and synthesize organic compounds with novel functionality. Furthermore, the course will nurture technologists who can provide the industrial world—beginning with the chemical industry but also encompassing many other areas—with materials they find useful, while at the same time conducting research that can improve the environment.

Regarding macromolecular substances, this course will involve the synthesizing of materials with new functionality as well as providing fundamental education and research related to the reactions involved in that synthesis. In the process students will investigate the connections between this functionality development and solid-state properties, molecular structure, and the higher-order structures. In addition to establishing principles for molecular design related to the development of macromolecules with superior characteristics, students will be involved in education and research related to manufacturing processes, practical application, and industrial processing.

With the goal of nurturing technologists and establishing new technologies related to bioengineering, this course will involve study and research concerning the fundamentals and practical development related to the latest bioengineering techniques in addition to biotechnology, such as (1) the highly efficient synthesis of useful biologically active substances, (2) the streamlined molecular design of functionally specific search molecules for the purpose of advancing fundamental research in the medical sciences, (3) the unraveling of molecular action mechanisms between physiologically active substances and biological macromolecules in biological functional development and the creation of artificial biological function-control substances based on that, (4) the engineering of substances with advanced functionality through biological reaction control and gene manipulation, (5) the search for new physiologically active substances through the use of in-vitro molecular evolution, and (6) the creation of unnatural super-proteins.

(3) 電子情報システム工学専攻　Electronic and Information Systems Engineering Division

より高度なシステムの将来を展望して，それを基礎で支える新しい材料とデバイス開発のための電子物性工学，またシステム化のための基礎情報科学の二つを十分に学習しながら，応用的分野で新しい領域の課題を研究・開発していくことによる有能なシステム型技術者・研究者の育成を目指します。

The education and research objectives of this division include the development of new materials, devices and the information science to advance the fundamental and practical computer applications for future systems. The division aims to educate capable engineers and researchers who are developing new approaches in these areas.

電子物性工学講座　Electronic Materials Engineering

新しい機能を持つ電子材料の合成と開発のためには，まず第一にその基礎的な物性を総括的にとらえることが必要であり，その上で個々の物性を組合せた新素材の設計を行うことが有利です。そのために，半導体，磁性体，誘電体などの結晶及びアモルファス，また，液晶，ゾル・ゲル状，生体関連系等の各種の状態における諸物質の電子的，光学的，音響的，プラズマ的，磁気的，誘電的及び熱的な基礎物性に関する特性の解明と新しい現象の追求を，次のような実験的手段により研究します。

紫外，可視，赤外，遠赤外，超音波等の各種の波長域でのスペクトロスコピー測定，レーザー光散乱測定，レーザー・プラズマ核融合現象，Ｘ線，磁気的，誘電的及びＤＳＣ熱測定。

上述の基礎電子物性に関する総合的な成果を高性能太陽電池，人工超格子，ファインセラミックス，光回路素子，分子素子デバイス，レーザー・プラズマ電気エネルギー発生素子，各種のセンサー，オプト・エレクトロニクス素子，光磁気素子等へ応用すると共にこれらの材料開発を基礎として効率よい電気エネルギーの発生，輸送，エネルギー変換及び次世代電気エネルギー情報通信工学をも目的とした基礎及び応用物性工学を目指した教育と研究を行います。

The first requirement for the synthesis and development of electronic materials with new functionality is a generalized understanding of the fundamentals of materials. It is advantageous to design new materials that combine individual material properties on the basis of that knowledge. In order to achieve that, this course includes research that explores the characteristics related to fundamental electrical, optical, acoustic, plasmatic, magnetic, dielectric, and thermal properties found in materials of every type, including semiconductors, magnets, and dielectric crystals as well as amorphous substances, liquid crystals, sol-gel-derived materials, and biological substances. This course also involves research to generate new phenomena through the following experimental methods: spectroscopy measurements taken on various wavelengths, including ultraviolet, visible light, infrared, far infrared, and ultrasound; laser-light scattering measurements; inertial confinement fusion; X-rays; magnetism; dielectrics; and differential scanning calorimetry.

The educational and research goal in this course is to engage in practical materials engineering and lay the groundwork by which students can comprehensively apply research results, which involve the basic electrical properties listed above, towards high-performance solar cells, superlattices, fine ceramics, optical circuit components, molecular-component devices, laser and plasma energy generation components, sensors of every kind, optoelectronic components, and magneto-optical components. Therefore based on the materials developed to achieve highly efficient energy generation, energy transmission, energy conversion and Communication Performance Engineering for WEB Monitoring Systems on the Internet.

知識情報工学講座　Knowledge and Information Engineering

近年，急速な高度情報化社会の到来に伴い，情報工学分野の教育・研究対象は，従来の決定論的アルゴリズムを中心とした情報処理の枠組み（情報科学）を越え，不確実性を伴う人間の自然知能と機械によりその実現を試みる人工知能との結合を指向する知能科学へと普遍化しつつあります。これに伴い，大学等の高等教育機関においては，現在の情報化社会のみならず，将来の知能科学時代をも担い得る有能な技術者，あるいは研究者の養成を図ることが急務となっています。そこで知識情報工学講座は，(1) 現在の高度情報化社会に対応するための，確定性，あるいは再現性を有する処理を対象とした理論とその応用を中心とした教育･研究分野（処理系）と，(2) 将来に対応するための，直観，類推，帰納，学習などの不確実性，あるいは状況依存性を含む情報を対象とした教育・研究分野（認識系）の二大分野から構成されています。このうち，処理系における基礎分野として，大規模な情報の処理，伝達等に関する理論，処理システムとしてのコンピュータ・アーキテクチャ，符号化における離散システム，組合せ数理，あるいは数値解析等の理論を中心に教育と研究を行います。また，その応用として，計算機ネットワーク，並列分散処理システム，自然言語，画像・音声情報処理，ＣＡＤ等に関する教育と研究を行います。

一方，認識系における基礎分野としては，人間の知的機能を科学的・理論的に分析する知的情報理論，情報の曖昧さに関する曖昧理論，生体情報処理システムのモデル化，光情報処理システム等の理論を中心とした教育と研究を行います。また，その応用として，エキスパートシステム等に関する教育と研究を行います。

With the recent rapid transition to an advanced information society, it has become the universal goal of education and research in the information engineering fields to move beyond the old framework of information processing centered on deterministic algorithms, and towards the transition to intelligence science, which seeks to make artificial intelligence a reality by combining the uncertain natural intelligence of humans with machinery. As such, there is a pressing need for institutions of higher education to develop a plan for training technologists and researchers who will lead the way not only in our present-day information society, but also in the forthcoming era of intelligence science. Thus, we have created the Knowledge and Information Engineering course by combining two major fields: (1) the field of education and research centered on the theories and application of determinacy, or reproducibility, as is required for our present-day advanced information society (i.e. information processing), and (2) the field of information education and research that includes indeterminacy—intuition, inference, inductive reasoning, and heuristics—or situated cognition, as will be required in the future (i.e. information awareness).

The information processing course will introduce study and research centered on large-scale information processing, communication theory, computer architecture used as processing systems, encoded distributed systems, combinatorial mathematics, and numerical analysis theory. Practical education and research topics will include computer networks, parallel distributed processing systems, natural languages, image and speech information processing, and CAD software.

The information awareness course will introduce study and research centered on intelligent information theory through a scientific and theoretical analysis of human mental functions, fuzzy logic and information ambiguity, biological information processing systems models, and optical information processing systems. Practical education and research topics will include expert systems.

(4) 環境エネルギーシステム専攻　Environmental and Renewable Energy Systems Division

クリーンで再生可能なエネルギー，リサイクル可能なエネルギー，従来型エネルギーの新利用形態，未利用エネルギーの開発と自立分散型新エネルギーシステムの基盤を実現できる高い専門性を持ち，技術と社会及び生態系との融合を目指した「環境産業革命」の担い手となりうる独創性のある研究者や技術者の育成及び社会人の再教育をします。

The education and research fields under this division are the development of clean and renewable energy, recyclable energy, new uses of existing energy sources, and unused energy resources and construction of dispersed energy supply systems with innovative technology applied to conventional energy systems. Such fields contribute to the realization of sustainable and eco-friendly developments for the future.

▼基幹講座　Core Courses

環境システム講座　Environmental Systems

環境負荷の低減を配慮した再生可能な最先端の新エネルギー利用技術と従来型エネルギーの高度利用技術を用いた種々のエネルギー供給源の安定確保，効率の良いエネルギー輸送・貯蔵システムの開発，最先端の情報化技術を用いた環境・エネルギー技術の統合化，自然エネルギーシステムの評価・利用手法の確立等の自立分散型新エネルギーシステム構築に関する研究と教育を行います。

This course involves study and research related to the construction of new independent and distributed energy systems including: stable energy supplies that utilize a variety of both traditional intensive energy-use technologies, and cutting-edge, sustainable energy-use technologies that lessen our impact on the environment; the development of highly efficient energy transmission and storage systems; integrated environmental and energy technologies that make use of cutting-edge information technology; and the establishment of natural energy systems evaluation and utilization techniques.

再生可能エネルギーシステム講座　Renewable Energy Systems

電気・化学・熱の３つの主要なエネルギー形態間の相互変換エクセルギー損失の低減，これらのエネルギーを多重経路で結ぶ高効率な利用システムの構築を行います。さらに太陽光発電，光エネルギー変換化学，熱エネルギー等に関わるエネルギーの総合的な利用効率の向上を目指したエネルギー変換システムの技術開発に関する研究と教育を行います。

This course involves the construction of a highly efficient usage system that is linked to energy sources via multiple pathways and reduces the energy losses incurred during mutual exchange between the three main forms of energy: electrical, chemical, and thermal. Furthermore, this course includes study and research related to energy exchange technology development with the goal of improving comprehensive energy usage efficiency involving solar energy, optical energy conversion chemistry, and thermal energy.

▼連携講座　Liaison Courses

新機能エネルギー材料学講座　New Functional Materials for Renewable Energy

エネルギーの有効利用と高度化等の立場から，高次構造制御による機能性材料開発と新機能発現に関する研究と教育を行います。

This course involves study and research related to the development of functional materials and the introduction of new functional materials through high-level structural control, from the standpoint of effective energy usage and energy development.

▼協力講座　Cooperative Courses

環境基礎科学講座　Fundamental Sciences for Environment

地球に降り注ぐ宇宙線である粒子線は，大気中の原子と衝突して，さまざまな粒子を作り出します。そのような反応を加速器を使って再現して，中性子星内部に存在すると推定される粒子を含む新種の原子核をつくります。この原子核の性質を調べ，中性子星の構造に関する基礎研究と教育を行います。

Particles in cosmic ray shower down on the Earth and produce various particles via interactions with atoms in the air. With use of accelerator, those interactions can be reproduced and make newly-authorized nuclei which can incloude particles inside neutron stars. This course involves study and fundamental research related to formation of neutron stars by studying properties of such nuclei.

Ⅳ　教育及び研究指導上の特色　Education and Research Guidance

(1) 教育研究上の基本方針　Basic Education and Research Policies

幅広い学際的基礎知識と高度の専門的能力を修得できるように，正・副２人以上の指導教員のマンツーマンに近い講義と演習を実施します。各自の研究課題に対応して学生自身が所属する主専攻の所属講座の授業科目を，さらに，学問・研究分野の副専攻として，必要に応じて他の講座，他の専攻及び他の研究科の授業科目を履修させ，境界領域を含めた幅広い応用力や開発能力を身につけるよう指導します。

In order for students to achieve extensive fundamental academic knowledge and a high level of specialized expertise, lectures and exercises are structured close to a one-on-one fashion involving at least two instructors, including a principal instructor and an assistant. Each student, according to his / her own research topic, will be instructed to attend lectures in his / her primary division, as well as to attend, as necessary, lectures from other courses and graduate programs in the secondary division, for the purpose of broadening practical skills and developmental skills in related fields.

(2) 教育研究指導の特色及び履修方法　Education and Research Instruction and Class Attendance

基本方針に基づき , 本課程の学生は , 下表の履修基準に沿った教育・研究の指導を受けます。

The basic policy requires students in our program to be involved in education and research in accordance with the attendance requirements outlined below.

履 修 基 準　Attendance Requirements

講　　義　Lectures	4 単位以上　4+ Credits
演　　習　Seminars	2　単　位　2 Credits
特別研究　Special Research	2　単　位　2 Credits
学外研修　Off-Campus Training	1　単　位　1 Credit
合　　計　Total	9 単位以上　9+ Credits

博士論文提出のために必要な条件の一つとして，主専攻，副専攻の全般にわたる総合理解度を判定するための最終試験が課せられます。上記で述べた基本方針と履修基準を関係づけて，博士後期課程の教育・研究上の特色を列記すると，次のようになります。

One of the prerequisites for submitting your doctoral thesis involves a final examination to determine your level of comprehensive understanding of both your primary and secondary divisions. In connection to the aforementioned policy and attendance requirements, study and research guidelines for the doctoral program are listed below.

①幅広い応用力や開発能力を身に付けるため，４単位以上の「講義」を履修します。

In order to acquire a widerange of practical skills and developmental skills, students must attend at least 4 “lecture” units.

②講義及び研究課題に付随した学問的背景，目的観，方法論，解析法，価値評価等をゼミナール方式により，各専攻の「演習」２単位を必修として履修します。

Students in each division must attend 2 “seminar” units in each division, involving academic background information, objectives, methodologies, analysis methods, and value assessments that are incidental to the student’s course and research topic, based on seminar format.

③設定した研究課題について，正・副２人以上の指導教員のマンツーマンによる充実した研究指導を受け，広く問題を発見する能力及びその解決方法を創案する能力を身に付けるように，各専攻の「特別研究」２単位を必修として修得します。

Students in each division must attend 2 “special research” units, which consist of receiving one-on-one in-depth research instruction from at least 2 instructors—, including a primary instructor and an assistant— in the student’s established research topic in order to facilitate the ability to make discoveries covering a wide range of problems as well as the ability to come up with creative solutions.

④産業界の実態に即した研究センスを失わないように，各種研究機関，教育機関，官公庁又は企業において，計画・設計・研究等の実務研修として「学外研修」１単位を必修として修得します。

Students must acquire 1 unit of “off-campus training” that may take place at different of research facilities, educational facilities, government agencies, or industries, and may consist of any practical training including planning, design, or research, in order for students to see the relevance of their research to the real world of manufacturing.

(3) 昼夜開講コースの履修について　Regarding Daytime and Evening Courses

本研究科では，大学院設置基準第14条特例（※）の昼夜開講コースによる授業を実施します。

昼夜開講コースとは，夜間や特定の時間又は時期に授業・研究指導の時間を設け，企業に勤務している社会人技術者，教育者及び研究者等の社会人に大学院の授業，研究指導をより受け易くするための制度です。

昼夜開講コースの履修申請に応じて開講時間の調整等を行いますので，履修希望の方は，工学部学務係（058-293-2377）までお早めにご相談ください。

Our post-graduate program offers lectures in daytime and evening courses as an exception under Article 14 of the Graduate School Establishment Standards.（※）

Daytime and evening courses are established to offer classes and study guidance in the evening or at specific times or time slots in order to accommodate engineers employed at companies as well as instructors and researchers to attend lectures and obtain study guidance.

Class hours will be adjusted in order to accommodate applications for daytime and evening courses, so interested applicants should promptly contact the Engineering Department office(058-293-2377).

※大学院設置基準第14条

「大学院の課程においては，教育上特別の必要があると認められる場合には，夜間その他特定の時間又は時期において授業又は研究指導を行う等の適当な方法により教育を行うことができる。」

※ Article 14 of the Graduate School Establishment Standards

“Postgraduate education classes or research guidance may be provided according to an appropriate method at nighttime, or at a separate specified time, when it is recognized that a special educational need exists.”

Ⅴ　課程修了の認定及び学位　Degrees and Recognition of Program Completion

本課程の標準修業年限は３年です。課程修了に必要な単位数（９単位以上）を修得した上，学位論文の審査及び最終試験に合格した者には課程修了の認定をし，博士（工学）の学位を授与します。詳細は工学部学務係（ＴＥＬ　058-293-2377，+81（0）58 293 2383）までお問合せください。

なお，以下の特例があります。

The standard program length is three years. In addition to completing the 9 units required for program completion, students who pass their doctoral thesis review and final examination will be recognized as having completed the program and receive a doctoral (engineering) degree. For more details, please call the Engineering Department office at 058–293–2377, +81(0)58 293 2383.

The following are the exceptions are:

（1）博士前期課程又は修士課程の修了者にあっては，同課程における講義及び演習について，同課程修了に必要な最低単位数を超えて修得した単位は，これを本課程において修得したものとみなすことができます。

Students who have completed the pre-doctoral program or a master's program can have their credits from completed classes and seminar offered in both programs count toward their doctoral program if those credits are in excess of the minimum required for completing the pre-doctoral or master's program.

（2）本課程修了に必要な単位数（９単位以上）を修得した上で，特にすぐれた研究業績を上げた者については，修業年限の短縮が認められることがあります。

In addition to acquiring the 9 or more credits required for completing the doctoral program, students who have displayed particular excellence in their research results may be permitted to have their program of studies shortened.

Ⅵ　長期履修制度について　Long-Term Attendance System

職業を有している等の事情により，標準修業年限（博士後期３年）を超えて，一定期間にわたり計画的に教育課程を履修し，修了することを希望する者に対して，「長期履修制度」を本研究科において導入しています。詳細は工学部学務係（ＴＥＬ　058-293-2377，+81（0）58 293 2383）までお問合せください。

For students who, due to ongoing work or similar reasons, wish to deliberately attend and complete the study program over a fixed term that exceeds the standard program length (3 years for the doctoral program), instruction in our graduate school can be provided through the Long-Term Attendance System. For more details, please call the Engineering Department office at 058–293–2377, +81(0)58 293 2383.

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